

G. AUGER.
BLOWPIPE FOR CALCINING INCANDESCENT FILAMENTS.
APPLICATION FILED MAY 2, 1908.

937,277.

Patented Oct. 19, 1909.

Fig. 1

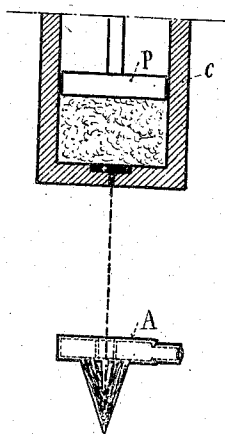


Fig 3

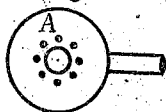
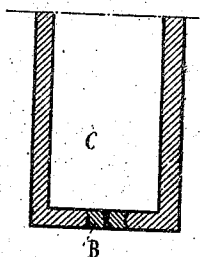


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

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BLOWPIPE FOR CALCINING INCANDESCENT FILAMENTS.

937,277.

Specification of Letters Patent.

Patented Oct. 19, 1908.

Application filed May 2, 1908. Serial No. 430,507.

To all whom it may concern:

Be it known that I, GASTON AUGER, a citizen of the Republic of France, residing at 46 Rue de Paradis, Paris, France, have invented certain new and useful Improvements in Blowpipes for Calcining Incandescent Filaments; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention herein described relates to improvements in the manufacture of incandescent filaments. The calcination of such filaments requires a high and constant temperature and necessitates the use of a special apparatus for this purpose. The electric furnace has been used for instance in order to obtain the high temperature required, however the electric arc which passes between the carbon electrodes always produces carbon vapor which has a bad effect on the chemical constitution of the filaments. The filament was therefore placed beside the arc, its process of calcination however thus became unequal that is to say some parts of the filament underwent a further degree of calcination than others. In subsequent use the filament obtained therefore soon became distorted.

In order to avoid the disadvantages referred to the apparatus may be used which is shown by way of an example in the accompanying drawings.

In these drawings Figure 1 is a vertical section through the press showing the position of the blow pipe and burner A beneath the press. Fig. 2 is a central vertical section through a press, showing a special removable mouth piece; and, Fig. 3 is a top plan view of the burner A.

The filament is squirted out of a suitable press and made to descend through an oxidizing flame in such a manner as to be heated over a considerable length whereby the calcination is effected in a progressive and regular manner.

The burner A is so arranged as to direct its flame downward and has a blow-pipe connected thereto. The said blow-pipe or burner is formed of a hollow ring into which the mixture of gases is passed which consists, as a rule, of oxygen and hydrogen

or oxygen and suitable gaseous hydrocarbons. The said gases emerge through small holes provided in the lower wall of the ring and arranged in a circle so that the jets of flame converge to the same point on the vertical axis along which the filament is caused to descend by the press. The filament is thus placed in the center of a flame which completely surrounds the same on all sides.

The burner is arranged beneath the press in such a manner that the center of the ring is beneath the orifice of the press. The plastic mass for the formation of the filament is placed in the cylinder "C" and compressed by the piston "P" so as to be forced out at the orifice of said cylinder. This orifice may be made directly in the bottom of the cylinder or it may be made as a special mouthpiece "B" which is screwed into the bottom of the cylinder or otherwise mounted in a suitable manner as shown for instance in Fig. 2. This mouthpiece may readily be exchanged for another having a larger or a smaller opening so as to obtain filaments of different thickness.

During the process of calcination the filament descends without interruption owing to a suitable agglutinant being present in the plastic mass. It passes through the center of the annular burner and is then surrounded by a bundle of flames projected downward by said burner. This bundle of flames calcines the material progressively and its effect is extended throughout a considerable length of the filament. A uniform calcination is produced thereby and a homogeneous product is thus obtained.

The temperature of the flame of the burner may be varied by altering the proportions of the constituent gases. If these gases are adduced under constant pressure, the length of the flame and the temperature obtained will likewise be constant.

What I claim and desire to secure by Letters Patent is:

1. The apparatus for calcining incandescent filaments having in combination with a suitable press for transforming a plastic mass into filaments an annular burner with a conical bundle of flames projected downward through the center of which the filament to be calcined is made to pass, the said burner being arranged beneath the press.

2. The apparatus for calcining incandescent filaments having in combination with a burner arranged so as to produce a conical bundle of flames projected downward a press
5 with an orifice made in a suitable mouth-piece that can be readily exchanged so as to vary the thickness of the filament.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GASTON AUGER.

Witnesses:

DEAN B. MASON,
FRANK W. HAY.